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Federal Communications Commission
Office of the Secretary

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re Application of	)	
	)	
THE FIDELIO GROUP, INC.	)	File No. BPH-910502MQ
	)	
For a Construction Permit for a new FM Station to operate on Channel 282B in New York, New York	)	

TO: Roy J. Stewart, Chief
Mass Media Bureau

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**OPPOSITION OF THE FIDELIO GROUP, INC.
TO PETITION TO DENY**

1. The Fidelio Group, Inc. ("Fidelio") hereby opposes the Petition to Deny filed by GAF Broadcasting Company, Inc. ("GAF") with respect to Fidelio's above-captioned application. As set forth below, GAF's claims are nothing but a mélange of self-serving speculation and surmise with no factual or legal support. Indeed, the purpose of GAF's Petition appears to be to delay and obfuscate this proceeding, rather than to simplify and expedite it.

BACKGROUND

2. Fidelio's application is mutually exclusive with GAF's pending application for renewal of the license of Station WNCN(FM), New York. Fidelio proposes to operate from the Chrysler Building in midtown Manhattan.

3. In its application, Fidelio expressly stated that, particularly because the Chrysler Building is occupied, Fidelio will be prepared to take such steps as may be appropriate to assure compliance with the Commission's policy concerning human exposure to RF radiation contained in ANSI Guideline C95.1-1982. Among a number of ***potential*** corrective measures mentioned by Fidelio was the installation of "shielded" glass in windows near any area which might be found

subject to excessive RF levels. This was not the only possible corrective measure mentioned by Fidelio, nor did Fidelio concede that ***any*** corrective measures would have to be taken. Rather, Fidelio merely noted that, in the event that RF levels in excess of those permitted by the Commission might be detected through measurements, Fidelio would take appropriate steps to assure compliance with Commission standards.

4. Starting from this slender thread, GAF has woven in its Petition a complex motley, featuring fanciful claims that excessive RF levels ***will*** occur, that the use of shielded glass (which GAF assumes, incorrectly, to be inevitable) ***will*** result in serious diminution of Fidelio's signal, and that Fidelio will thus be unable to comply with either Section 73.315 (relating to city-of-license coverage) or Section 73.213 (precluding exacerbation of existing short-spacings). Additionally, GAF has grafted onto these basic claims the additional claim that Fidelio's application may cause some "significant environmental impact", GAF Petition at 10, simply because the Chrysler Building is an historic structure. The fabric of all of GAF's arguments unravels quickly when subjected to critical analysis.

DISCUSSION

5. For purposes of analysis and response, GAF's arguments may be sorted into two categories: first, the "technical" issues, *i.e.*, GAF's speculative notion that excessive RF radiation levels will compel serious violations of one or another rule; and second, GAF's notion that a new FM antenna system on a skyscraper in New York City will have serious (albeit undescribed) environmental effects.

A. *The "Technical" Issues*

6. GAF's tortuous, labyrinthine "technical" argument is, in fact, nothing more than wishful thinking initially based on an invalid assumption, aggravated by a mischaracterization of the

facts and then finished off with pure speculation and surmise. First, GAF assumes that Fidelio's

of T'ing C. Pei). That fact, of course, reduces substantially the possibility of any excessive human exposure to RF radiation.

9. Moreover, the nature of the Chrysler Building itself provides a further protection against RF radiation for its occupants. The exterior of the Building is made of a special "Nirosta" steel (which may in turn have a masonry back-up), which is in turn mounted on a steel frame encased in steel-reinforced concrete. *See* Attachment A hereto. Because of this, the side of the Building itself will act as an RF shield, preventing radiation from entering. *See* Attachment B hereto. Further, Fidelio's antenna is proposed to be mounted at approximately the 75th floor of the Building. But the last inhabited floor is the 71st, which houses a small architectural firm -- and even at that level the fenestration is significantly reduced as a result of the tapering of the Building's spire. *See* Attachment A hereto. Indeed, at the level of Fidelio's antenna (which is accessible only by stair), there are no windows at all, just unwindowed steel surfaces with holes punched through, through which holes numerous transmitting antennas currently protrude. *Id.* Thus, there is no anticipated need for the use of shielded glass. *See* Attachment B hereto.

10. The result of all of these considerations is that the likelihood of any excessive RF radiation affecting any occupants of the Chrysler Building is absolutely minimal. GAF's conclusion to the contrary, based on faulty assumptions and willful ignorance of obvious factual considerations [3/], can and must be dismissed as nothing but unsupported wishful thinking. Of course, as reflected in its application, Fidelio is still committed both to making appropriate measurements upon the installation of its equipment, and to taking any corrective steps necessary in

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[3/] GAF's assumption of excessive RF radiation levels is based on its conclusion that "humans cannot be closer than 39.1 meters to the Fidelio antenna". GAF Petition, Exhibit 1, page 2. But GAF's assumption ignores the shielding effect of the Chrysler Building itself. Surprisingly, GAF acknowledges Fidelio's assertion that the building's walls will result in "substantial attenuation" of the signal, GAF Petition, Exhibit 1, page 3, but then GAF proceeds to ignore that effect completely.

the unlikely event that the measurements disclose any need therefor. [4]

11. *No distortion and/or reduction of Fidelio's signal is likely.* Blissfully unmindful that its absolutely essential fundamental premise is simply wrong, GAF proceeds to argue that any measures (GAF specifically references only the use of shielded glass) which might be taken to correct excessive RF exposure will "essentially eliminat[e] Fidelio's signal" in certain directions, GAF Petition, Exhibit 1, page 3, thereby "seriously distort[ing] and reduc[ing] . . . it in violation of FCC Rules." GAF Petition at 5. Of course, as discussed above, it is highly unlikely that ***any*** corrective measures at all will be necessary. If no such corrections need to be made, GAF's entire argument dissolves. Moreover, even if some corrective measures do prove necessary, it is unlikely, because of the particular placement of Fidelio's antenna on the Building, that the use of shielded glass will be among them. Since GAF's argument apparently assumes as a prerequisite that shielded glass will be used, again that argument dissolves.

12. But even if, for the sake of argument, it is accepted that some shielded glass or other corrective measures need to be taken, the effect of such measures is clearly not what GAF predicts. The basis for GAF's predictions is the claim that corrective measures would distort Fidelio's signal. *See* GAF Petition at 5. The distortion which GAF predicts would, according to GAF, reduce Fidelio's coverage dramatically. According to GAF's imaginative train of thought, the loss of coverage would be ***so*** dramatic that it would preclude Fidelio from compliance either with Section 73.315 or (if Fidelio attempts to increase facilities to comply with that section) with Section 73.213(a). As an apparent afterthought, GAF also suggests that, additionally, placement of Fidelio's antenna on the Chrysler Building will "unavoidabl[y]" result in shadowing which "could"

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[4] As indicated in Fidelio's application, such corrective steps can include restriction of access to any areas in which excessive RF is found. In view of the normally unoccupied nature of the building space nearest the antenna, and in view of the fact that access to that space is limited to a staircase (*see* Attachment A hereto), restriction of access is expected to be relatively simple to achieve effectively.

reduce coverage below 80% of New York. GAF Petition at 7.

13. The flaw in GAF's approach is that Fidelio specifically acknowledged, in its application, that care would need to be taken to assure optimal omnidirectional performance from the antenna it will ultimately use, and Fidelio specifically committed to take such care. [5/] It is well-established that a number of alternative antenna designs can and may be used to assure proper coverage. Indeed, the Commission's Rules themselves afford licensees and permittees broad discretion in the selection and installation (without prior Commission authority) of nondirectional antenna systems. *See* Section 73.1690(c) of the Commission's Rules. It is clear that Fidelio is under no obligation to specify, in its application, any particular antenna type or mounting arrangement.

14. This is not to say that Fidelio denies the possibility of some pattern distortion created by, *inter alia*, the characteristics of the structure on which the antenna is mounted. To the contrary, it is an undeniable engineering tenet that ***all*** FM antennas -- even omnidirectional antennas -- exhibit some directionality. An antenna's radiation pattern shape is dictated by a variety of factors, including the specific frequency of the antenna, the structure on which it is mounted, the antenna's design, other nearby objects, and the like. As a matter of routine practice, however, the Commission does ***not*** consider potential pattern distortion from a non-directional antenna. Were the Commission to do so, it would be creating for itself a vast new, and unnecessary, workload (not to mention a new source of arguments for potential petitioners to deny).

15. For the purposes of Fidelio's application (and the instant Opposition), it suffices to point out that Fidelio has proposed a non-directional antenna system and that Fidelio has specifically and expressly committed itself to taking such steps as may be necessary in the design of

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[5/] As a practical matter, of course, it will ultimately be in Fidelio's financial interest to take such care, in order to maximize its potential audience.

the antenna system to avoid any coverage, shadowing, or other similar problems. [6/] The chimerical pattern distortion conjured by GAF is but another fanciful, self-serving claim which does not withstand analysis. And, since GAF's bottomline arguments -- *i.e.*, that some pattern distortion will cause dramatic loss of coverage and, therefore, inability to comply with either Section 73.315 or Section 73.213 -- assume as a *sine qua non* the existence of some dramatic distortion, those arguments may be summarily rejected.

B. ***The "Environmental" Issue***

16. Finally, GAF asserts that Fidelio's application cannot be granted without the submission of an environmental assessment which, according to GAF, Fidelio failed to file. As explained in Fidelio's application, it is far from clear that, in the peculiar circumstances presented here, any formal environmental assessment was, in fact, required. Nevertheless, Fidelio ***did*** include in its application ample information from which the Commission could evaluate the possible environmental effects of the proposal. *See* Fidelio Application, Engineering Exhibit, Statement D ("Environmental Considerations"). That is, Fidelio took pains to advise the Commission that its proposed antenna site is the Chrysler Building. Fidelio also took pains to allay any concerns about

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[6/] One possible alternative mentioned in Fidelio's application, *see* Fidelio Application, Engineering Exhibit, Statement A -- and specifically criticized by GAF, *see* Petition at 7 -- is an antenna design featuring multiple elements mounted on various sides of the building. It is clear from Fidelio's application that Fidelio has not irrevocably committed to the use of such an antenna, but that such an antenna is merely one possible alternative. Nevertheless, GAF spends considerable energy attempting to demonstrate that such an antenna would be unacceptable. *Id.* But GAF's criticisms ignore the obvious fact that the phasing of multiple antenna elements to achieve an omnidirectional pattern is a thoroughly common practice. In fact, even the multiple-user antenna used by GAF on the Empire State Building employs multiple elements. Since Fidelio's proposed antenna will be used only by Fidelio, and thus can be tailored solely for Fidelio's operation, it will clearly be easier to design Fidelio's antenna to assure the particular omnidirectional pattern proposed by Fidelio.

In light of GAF's own use of such a multiple-element system, the theoretical criticisms of such systems advanced in GAF's Petition are not only demonstrably invalid, but also of questionable *bona fides*.

It should also be noted that the Commission has previously approved -- ***for installation on the Chrysler Building*** -- omnidirectional FM broadcast antennas designed with four elements (one mounted on each of the four faces of the Building) and with two elements. *See* File Nos. BPH-2751, BPH-4629. This fact alone wholly undercuts GAF's misguided criticisms of Fidelio's proposal.

potential adverse environmental effects. To that extent Fidelio effectively provided an "Environmental Assessment", even if the information was not so styled and even if Fidelio did not believe itself to be absolutely required to provide such an "assessment".

17. Curiously, GAF does not explain precisely how Fidelio's proposed antenna placement might have any significant, adverse effect on the Chrysler Building. Certainly GAF alleges no structural or other direct, adverse effect. Rather, GAF at most merely hints that the fact that Fidelio's antenna might be visible from the ground level is, in and of itself, such an effect. *See* GAF Petition at 12. But even accepting, *arguendo*, GAF's assumption that Fidelio's antenna would be "several feet" in horizontal dimension, the fact is that that antenna is proposed to be mounted more than 800 feet above ground level. In other words, it would have the visual effect of an object only "several feet" wide (*e.g.*, a conventional door) positioned more than 800 feet -- *i.e.*, almost the length of three football fields -- away from a viewer on the ground. From this perspective it is difficult to understand what conceivable significant effect Fidelio's antenna might be said to have. [7/]

18. This is especially so in light of the fact -- carefully sidestepped by GAF -- that multiple broadcast antennas have historically been mounted on the Chrysler Building. [8/] These include at least three FM antennas (for Stations WCBS-FM, New York, New York, WTFM(FM), Fresh Meadows, New York (since redesignated WYNY(FM), Lake Success), and WPAT(FM),

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[7/] GAF's failure to describe any potential significant adverse effect is important. The Commission's environmental rules were, after all, adopted in furtherance of the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§4321 *et seq.* *See, e.g., National Environmental Policy Act Rules* (*"NEPA Rules"*), 49 F.C.C.2d 1313, 32 R.R.2d 181 (1974). Pursuant to NEPA, the Council on Environmental Quality issued guidelines to assist agencies such as the Commission in their efforts to comply with the statute. Those guidelines as originally adopted noted that NEPA reflects Congress' concern about only actions which are likely to have a "significant" effect on the quality of the human environment; the guidelines also noted that the factor of "significance" is a threshold standard that must be met before full agency consideration is required. *See* 40 C.F.R. §1500.6(c)(1974), included as Appendix 2 to *NEPA Rules, supra.* Under these circumstances GAF's apparent inability even to allege, much less to demonstrate, any "significant" adverse effect undercuts GAF's claims.

[8/] GAF merely states that "[t]here are no radio or television antennas presently mounted on the Chrysler Building". GAF Petition at 12. GAF fails to state that that has not always been the case.

Paterson, New Jersey) and one 16-element television antenna (for Station WCBS-TV, Channel 2). While these antennas have since been relocated to other sites, the fact is that they were installed on the Building without apparent adverse effect, significant or otherwise. In view of that, and in view of the fact that a number of radio antennas are currently installed on the Building [9/], the installation of one more antenna is simply not likely to have the type of dire effect which GAF intimates.

19. Nor could it reasonably be expected to have such an effect. Fidelio's sole voting principal, T'ing Pei, is an urban planner by training and profession; he is a former Director of the Civic Development Division of the New York State Urban Development Corporation; and he is a charter member of the American Institute of Certified Planners, a national organization which establishes standards for expertise and practice in the city planning profession. *See* Attachment A hereto. As a result of his professional background he is familiar with and sensitive to the importance of historical preservation, particularly in the context of architectural considerations. His appreciation for the significance of architecture is enhanced by his familial background: Mr. Pei is the son of

that any "Environmental Assessment" was required or, even if one was required, that any significant question concerning the effect of Fidelio's proposal on the Building is presented here. Moreover, to the extent that one might, *arguendo*, have been required, Fidelio submits that its application contained information sufficient to constitute an "Environmental Assessment". In Fidelio's view, the information presently available to the Commission is enough to satisfy the Commission that no significant adverse effect(s) can be expected from Fidelio's proposal. As a result, GAF's self-serving suggestion that elaborate additional analyses must be undertaken is unnecessary. Indeed, such further efforts would represent a significant expense of valuable, scarce resources and time for limited, if any, purpose.

CONCLUSION

18. On the basis of all of the foregoing, it is clear that the various allegations advanced by GAF are, individually and in the aggregate, without merit. Accordingly, GAF's Petition to Deny should be denied.

Respectfully submitted,

/s/ Harry F. Cole
Harry F. Cole

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Counsel for The Fidelio Group, Inc.

January 17, 1992

ATTACHMENT A

DECLARATION

[redacted]

Access to the higher floors appears to be limited to a single staircase; there is no elevator service beyond the 71st floor. I climbed the stair to the 76th floor. My observations of the

architect. I have derived from my father a sincere appreciation for the importance of building design.

T'ing C. Pei

Date: 16 January 1992

ATTACHMENT B

Engineering Statement

RESPONSE TO PETITION TO DENY

prepared for
The Fidelio Group, Inc.
New York, New York

I William P. Suffa, P.E. hereby certify under the penalty of perjury that I have prepared this statement on behalf of the Fidelio Group, Inc. (Fidelio), applicant for a new FM station on channel 282B in New York, New York, in response to a Petition to Deny

by 10 other FM stations[1] located on the Empire State Building in New York. That antenna is a two-level, multiple element antenna which surrounds the structure, and is located immediately adjacent to the Observation Deck windows.

Principal Community Coverage and Antenna Directionality

Fidelio has proposed in its application (original and as amended) to operate with a nondirectional transmitting antenna. In that proposal, Fidelio indicates that it will commission studies during the antenna design process to purchase an antenna system to attain as nearly omnidirectional coverage as possible. Included in the possible options are multiple antenna elements on various sides of the structure.

GAF contends that such an installation could result in interference patterns due to out-of-phase energy from multiple antenna elements. This phasing of radiated RF energy is, in fact, just the mechanism which will aid in obtaining omnidirectional coverage. A typical panel antenna system consists of individual radiating elements placed on the face of antenna supporting structures. Each panel (or element) is fed energy with a particular relative power level and phase. The energy from each of the elements combines in free space to achieve a particular antenna radiation pattern, be it directional or nondirectional.

There are numerous examples of such multiple element antenna systems. All panel antenna systems are so designed. So too is the very antenna that GAF's WNCN facility employs on the Empire State Building. In fact, previous broadcast antenna systems mounted at Fidelio's proposed site have been authorized by the Commission including WPAT, WTFM (now WYNY) and WCBS.[2]

There is no requirement in the FCC Rules or FCC Form 301 concerning the design or installation of a nondirectional antenna system such as that proposed by Fidelio. In fact,

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[1] WXRK, WQXR-FM, WSKQ-FM, WRKS-FM, WBAI, WHTZ, WNEW-FM, WNSR, WLTW, and WBLS all share this antenna with WNCN.

[2] See BPH-2751 and BPH-4629.

Section 73.1690(c) of the FCC Rules specifically permits the replacement of a non-directional antenna with one of the "...same or different type or number of bays, provided that the height above ground of the center of radiation is within 2 meters of that specified in the station authorization, the parameters are within that permitted by the class designation, and there is no change in the maximum effective radiated power." Such a replacement merely requires filing of an FCC Form 302 (license application) within 10 days of commencement of operation. Clearly, Fidelio need not provide specific antenna design details - nor need it even select a specific antenna type and mounting arrangement - for the proposed nondirectional operation. Such a selection is a permissive change which is evaluated by the Commission prior to issuance of a station license.

Also relevant to this discussion is the fact that the Chrysler Building was formerly home to several FM stations. The former WTFM (now WYNY), Lake Success, NY, had its antenna located on the Chrysler Building during the 1960's and early 1970's. A picture of that antenna is contained on Page 217 of Broadcast Antenna Systems Handbook [3]. Likewise, FCC records show that WPAT-FM, WCBS-FM and WCBS-TV each were authorized to operate from this site. At least one of these was authorized to operate with 4 dipole elements (one on each face of the building) and another with 2 dipole elements, to attain omnidirectional coverage. Since the state of the art for FM antennas has improved since that time, Fidelio anticipates that non-directional operation can be achieved.

The Commission as a matter of practice does not consider potential pattern distortion from a non-directional antenna (that is, one that has not been intentionally directionalized). All FM antennas, including those which are "pole" mounted exhibit slightly directional characteristics. The radiation pattern shape is dictated by the specific frequency, mounting structure, antenna design and nearby objects. A change in any of those items will result in a change in the overall radiation characteristics. (Even WNCN's proposed relocation to a new antenna atop the Empire State Building will exhibit somewhat different radiation characteristics than the existing WNCN/common antenna.) By proposing a single-user

[3] Tab Books, December, 1973, ISBN 0-8306-3044-9.

antenna system for the Chrysler Building, Fidelio will have sole control over the antenna design and its ability to provide non-directional coverage.

In specifying and achieving omnidirectional coverage, Fidelio will satisfy all requirements of the Commission's rules with respect to principal community coverage and "grandfathered" operation. The provisions of Section 73.213 of the FCC Rules consider only whether the 60 dBu contour will extend beyond the presently authorized 60 dBu contour. In the instant case the incumbent licensee of Channel 282 at New York is authorized a non-directional antenna system. Fidelio is also proposing use of a non-directional antenna, with a power reduction to satisfy the Section 73.213 requirements. Nothing else is required under the FCC Rules. Likewise, city coverage requirements will be met. Notwithstanding the FCC requirements, economic incentives encourage Fidelio to attain its proposed omnidirectional coverage.

Environmental Matters

Fidelio believes that its proposal may be categorically excluded from environmental processing. As the basis for that claim, Fidelio demonstrates that the structure is presently used to support numerous other antennae, and has been used in the past for broadcast facilities.

Selection of a location for the proposed antenna was made in consultation with the Chrysler Building staff. A primary concern was minimizing the visual impact. There are

The Commission has not found a need to consider the environmental impact of any of the existing antennas mounted on the Chrysler Building. The proposed FM antenna will not be substantially out of the character of either the existing antennas, or the previous broadcast antennas located on the building. Therefore, it is Fidelio's belief that this proposed construction may be categorically excluded from environmental processing.

With regard to RF energy exposure, the Fidelio proposal will not result in excessive human exposure to RF energy. In the original proposal, Fidelio proposed to conduct exposure measurements at the site and take corrective measures which might include metallicized glass or restricted access to certain areas. In the amended proposal, Fidelio's antenna will be located at least 4 floors above the occupied space in the building. The building construction at this level is reinforced concrete with a masonry backed Nirosta steel outer shell. There are no windows at this level. Thus, a steel shield will be between the antenna and any accessible area. Such shielding will attenuate RF energy to a degree that the ANSI guideline will most likely be satisfied. Fidelio has again committed to making measurements. If excessive levels are measured, corrective actions will be taken, including use of metallicized glass, access restriction and time limits for those entering areas where the

Conclusion

Fidelio's proposal complies with all pertinent FCC requirements concerning antenna system design, coverage, environmental and allocation matters.

William P. Suffa, P.E.
Virginia Registration 18300
D.C. Registration 9013

January 16, 1992

CERTIFICATE OF SERVICE

I, Harry F. Cole, hereby certify that on this 17th day of January, 1992, I caused copies of the foregoing "Opposition of The Fidelio Group, Inc. to Petition to Deny" to be sent, by first class United States mail, postage prepaid, to the following:

Roy J. Stewart, Chief (BY HAND)
Mass Media Bureau
Federal Communications Commission
1919 M Street, N.W. - Room 314
Washington, D.C. 20554

Stuart B. Bedell, Esquire (BY HAND)
Audio Services Division
Mass Media Bureau